

47. (New) An engine as set forth in claim 46, wherein said divider includes an opening, such that said crank chamber and said oil reservoir are in fluid flow communication through said opening.

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48. (New) An engine as set forth in claim 47, wherein said divider further includes a second opening and a third opening, said second opening positioned substantially across from said third opening, said crank chamber and said oil reservoir being in fluid flow communication through said second and third openings.

49. (New) An engine as set forth in claim 46, wherein said depending wall is a cylinder side wall.

50. (New) An engine as set forth in claim 46, wherein said engine housing further includes a valve chamber in which said intake valve and said exhaust valve are disposed, said valve chamber being in fluid flow communication with said crank chamber.

51. (New) An engine according to claim 46, further comprising:
a cam shaft rotatably driven by said crankshaft and oriented substantially normal with respect to said crankshaft.

52. (New) An engine according to claim 51, further comprising first and second valve tappets associated with a respective valve and operatively engaging said cam shaft, wherein said valves are disposed substantially normal to said crankshaft.

53. (New) An engine according to claim 51, wherein said cam shaft has an axial passageway and a radial aperture communicating between said crank chamber and said passageway, said engine further comprising a breather tube having one end communicating with said passageway of said cam shaft and another end communicating with an air intake system of said engine.

54. (New) An engine according to claim 46, wherein said crankshaft is cantilevered, said crankcase includes an access hole, said piston includes an aperture, said access hole and aperture being alignable during assembly of said engine;

and wherein said engine further comprises:

a connecting rod having one end pivotally attached to said crankshaft and the other end pivotally connected to said piston; and

a wrist pin insertable through said access hole and into said aperture in said piston to pivotally connect said connecting rod to said piston.

55. (New) An engine according to claim 46, wherein said crank chamber includes at least two bearing pockets, one pocket having a larger diameter than the other and both pockets being disposed on the same side of said depending wall.

56. (New) An engine according to claim 46, further comprising a shroud at least partially surrounding said engine housing and including a pair of opposed channels, and a fuel tank having opposed outwardly-extending shoulders, such that said shoulders of said fuel tank are received by said respective channels of said shroud.

57. (New) An engine according to claim 46, wherein said engine housing further includes a back plate which is adjacent to a flywheel, and wherein said crankcase, cylinder, and back plate are cast as a single component.

58. (New) An engine according to claim 46, wherein said cylinder includes elliptical intake and exhaust ports on opposite sides of said engine housing, and intake and exhaust valves in communication with said intake and exhaust ports, respectively.

59. (New) An engine as set forth in claim 46, wherein the divider is substantially U-shaped.

60. (New) An engine as set forth in claim 59, wherein one side of the divider is exposed to the oil reservoir and an opposite side of the divider is exposed to the crank chamber.

61. (New) The engine of claim 46, wherein said cylinder defines a bore having a bore axis, and wherein said depending wall extends into said crank chamber generally parallel to said bore axis.

62. (New) The engine of claim 46, wherein said cylinder defines a bore, and wherein said depending wall defines an extension of said cylinder bore into said crank chamber.

63. (New) The engine of claim 62, wherein said bore extension and said cylinder bore have substantially the same diameter.

64. (New) The engine of claim 63, wherein said bore extension and said cylinder bore are substantially coaxial with each other.

65. (New) The engine of claim 46, further comprising a cylinder head mounted to said engine housing over said cylinder to at least partially define a combustion chamber in said cylinder, and intake and exhaust valves disposed within said engine housing.

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66. (New) A four-stroke internal combustion engine, comprising:
an engine housing; including a crankcase and a cylinder;
a crankshaft supported for rotation within said crank chamber;
a wrist pin boss on said engine housing, said wrist pin boss being large enough to permit
an access hole to be machined thereinto at one of at least two locations;
a piston reciprocally operable within said cylinder, said piston including an aperture, said
access hole and aperture being alignable during assembly of said engine;
a connecting rod having one end pivotally attached to said crankshaft and the other end
pivotally connected to said piston; and
a wrist pin insertable through said access hole and into said aperture in said piston to
pivotally connect said connecting rod to said piston;
wherein the location of the access hole in the wrist pin boss is selected to accommodate a
desired connecting rod length.

67. (New) An engine for a handheld power tool, said engine comprising:
an engine housing, including a crankcase and a cylinder;
a combustion chamber at least partially defined by said cylinder;
intake and exhaust valves communicating with said combustion chamber;
a piston reciprocal within said cylinder;
a crankshaft supported for rotation within said crank chamber and connected with said piston to convert linear movement of said cylinder into rotation of said crankshaft; and
a cam shaft oriented normal to said crankshaft and rotatable in response to rotation of said crankshaft to actuate said valves.

68. (New) A four-stroke internal combustion engine, comprising:
an engine housing, including a crankcase and a cylinder;
a crank chamber disposed within said crankcase; and
a cantilevered crankshaft supported for rotation within said crank chamber, said crankshaft including a counterweight having a locating hole extending therethrough to accommodate a tool for proper insertion of said crankshaft into said crank chamber.

69. (New) The engine of claim 68, further comprising an internal cylinder side wall, and wherein said crank chamber includes at least two bearing pockets, one pocket having a larger diameter than the other, wherein both of said bearing pockets are disposed on the same side of said internal cylinder side wall.

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70. (New) A four-stroke internal combustion engine, comprising:
an engine housing, including a crankcase and a cylinder;
a crank chamber disposed within said crankcase;
a crankshaft supported for rotation within said crank chamber;
a piston operably interconnected with said crankshaft for reciprocation within said cylinder in response to rotation of said crankshaft;
a shroud at least partially surrounding said engine housing and including a pair of opposed channels; and
a fuel tank having opposed outwardly-extending shoulders, such that said shoulders of said fuel tank are received by said respective channels of said shroud.

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71. (New) The engine of claim 70, further comprising:
an oil reservoir, disposed within said crankcase and in fluid flow communication with said crank chamber;
a divider at least partially separating said crank chamber from said oil reservoir; and
a depending wall extending at least partially into said crank chamber to define a lubricant receiving space between said divider and said depending wall.

72. (New) The engine of claim 70, further comprising a filler material positioned between each of said channels and said shroud and each of said respective shoulders of said fuel tank.

73. (New) The engine of claim 72, wherein said filler material is a polyethylene, high-density, closed cell, high-temperature resistant foam which is also gasoline-resistant.

74. (New) A four-stroke internal combustion engine, comprising:
an engine housing including a crankcase, a cylinder, and a back plate;
a flywheel adjacent to said back plate;
a crank chamber disposed within said crankcase;
a crankshaft supported for rotation within said crank chamber; and
a piston operably interconnected with said crankshaft for reciprocation within said cylinder in response to rotation of said crankshaft;
wherein said crankcase, cylinder, and back plate are cast as a single component.

75. (New) The engine of claim 74, further comprising:
an oil reservoir disposed within said crankcase, and in fluid flow communication with said crank chamber;
a divider at least partially separating said crank chamber from said oil reservoir; and
a depending wall extending at least partially into said crank chamber to define a lubricant receiving space between said divider and said depending wall.

76. (New) The engine of claim 75, wherein said cylinder includes at least one fin integrally formed therewith, said fin extending from said back plate and beneath said crankcase.

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77. (New) A four-stroke internal combustion engine, comprising:
an engine housing including a crankcase and a cylinder, said cylinder including elliptical intake and exhaust ports on opposite sides of said engine housing;
intake and exhaust valves in communication with said intake and exhaust ports, respectively;
a crank chamber disposed within said crankcase;
a crankshaft supported for rotation within said crank chamber; and
a piston operably interconnected with said crankshaft for reciprocation within said cylinder in response to rotation of said crankshaft.

78. (New) The engine of claim 77, further comprising:
an oil reservoir disposed within said crankcase, and in fluid flow communication with said crank chamber;
a divider at least partially separating said crank chamber from said oil reservoir; and
a depending wall extending at least partially into said crank chamber to define a lubricant receiving space between said divider and said depending wall.

79. (New) The engine of claim 77, further comprising:
a shroud which at least partially surrounds said engine housing, said shroud having an opening around said intake port; and
an intake isolator having an air/fuel passageway therethrough, said intake isolator mounted to said engine housing such that said air/fuel passageway of said intake isolator is in alignment with said intake port, said intake isolator positioned within said opening in said shroud.

80. (New) The engine of claim 77, wherein said intake isolator includes an integrally-formed back wall and side wall, wherein said back wall is adjacent said intake port and said side wall is substantially normal to said back wall.

81. (New) The engine of claim 77, further comprising a carburetor which is interconnected with said intake isolator.

82. (New) The engine of claim 76, further comprising a muffler connected to said engine housing, wherein said muffler includes a boss which extends into said exhaust port.

83. (New) The engine of claim 82, wherein said engine housing includes an angled, step sealing surface located in said exhaust port, such that an end of said boss of said muffler mates against said sealing surface of said exhaust port.

84. (New) The engine of claim 83, further comprising a sealing gasket located between said end of said boss and said sealing surface of said exhaust port.

85. (New) The engine of claim 82, wherein said boss of said muffler is surrounded by an outer portion of said exhaust port to define a clearance space between said muffler and said engine housing, and wherein said engine further comprises a gasket positioned between said engine housing and said muffler to seal said clearance space.

86. (New) The engine of claim 85, wherein said gasket is enlarged and provides a heat shield.

87. (New) The engine of claim 82, wherein said muffler includes a pair of outer shells having a pair of mounting bolt holes extending therethrough for receiving a pair of mounting bolts.

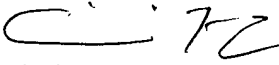
88. (New) The engine of claim 87, wherein said muffler includes an inner shell sandwiched between said pair of outer shells, said inner shells including a pair of mounting bolt holes extending therethrough for receiving the mounting bolts.

a Sub 27 89. (New) The engine of claim 85, wherein one of the outer shells includes a shoulder extending around an edge of the outer shell, and the other outer shell includes a hook shaped flange extending around an edge of the outer shell, such that said hook shaped flange of the respective outer shell receives said shoulder of the respective outer shell.

add 817 Claims 46-89 have been added and claims 1-89 are pending in this application.

The Examiner is invited to contact the undersigned attorney should the Examiner determine that such action would facilitate the prosecution and allowance of the present application.

Respectfully submitted,


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